

Applicant: Kaewell, Jr. et al.
Application No.: 09/356,845

information including an assignment of n transmission fixed periodic time slots, where n is an integer greater than 1, and n reception fixed periodic time slots on a selected frequency;

(ii) said radio transceives a duplex telephonic communication with the plurality of stations on the selected frequency wherein:

(a) said transmitter transmits first speech information in a respective one of the n transmission time slots on the selected frequency; and

(b) said receiver receives second speech information from each of the plurality of stations in one of the n reception time slots on the selected frequency and receiving base station synchronization information from a base station, wherein a transmit and receive timing of the primary station is synchronized to the base station using the base station synchronization information; and

the plurality of stations including:

the base station communicating with a plurality of stations, the base station receiving from the primary station the first speech information originated from a secondary station in said respective transmission time slot and transmitting the second speech information in said respective reception time slot the base station transmitting the base station synchronization information; and

the secondary station having:

(i) a radio receiver which receives the primary station synchronization information from the primary station and identifies the assignment of time slots and

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which receives from the primary station the first speech information originating from the base station in said respective transmission time slot, wherein a transmit and receive timing of the secondary station is synchronized to the primary station using the primary station synchronization information; and

(ii) a radio transmitter which transmits the second speech information in said respective reception time slot; and

wherein using the primary station for transmissions between the base station and secondary station is transparent to the base station and secondary station, and the primary station and the secondary station itself detects a frame timing from received signals and aligns its transmitting frame timing accordingly.

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15. (Six Times Amended) A telecommunication station for communicating with a base station and a secondary station using wireless transmissions, the base station communicating with a plurality of stations, the telecommunication station comprising:

a transmitter which:

(i) transmits primary station synchronization information including the assignment of $2n$ fixed periodic time slots, where n is an integer greater than 1, on a selected frequency, n fixed periodic transmit time slots for transmission from said telecommunication station and n fixed periodic reception time slots for reception by said telecommunication station, the primary station synchronization information enabling a transmit and receive timing of the secondary station to be synchronized to

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the primary station; and

(ii) transmits TX information to the base station and the secondary station on the selected frequency in respective ones of said n assigned transmit slots, the receiver receiving base station synchronization information to synchronize a transmit and reception timing of the primary station to the base station; and

a receiver which receives RX information from the base station and the secondary station on the selected frequency in respective ones of said n assigned reception slots and receives synchronization information from the base station, the receiver receiving base station synchronization information to synchronize a transmit and reception timing of the primary station to the base station; and

wherein using the telecommunication station for communications between the base station and secondary station is transparent to the base station and secondary station, and the primary station and the secondary station itself detects a frame timing from received signals and aligns its transmitting frame timing accordingly.

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19. (Six Times Amended) A telecommunication station for communicating with a base station and a secondary station using wireless transmissions, the base station communicating with a plurality of stations, the telecommunication station comprising:

a transmitter which:

(i) transmits telecommunication station synchronization information including the assignment of fixed periodic time slots on a selected frequency, at least

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two fixed periodic transmit time slots for transmission from said telecommunication station and at least two fixed periodic reception time slots for reception by said telecommunication station, wherein the telecommunication station synchronization information enables a transmit and receive timing of the secondary station to be synchronized to the telecommunication station; and

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(ii) transmits a signal carrying information received from the base station on the selected frequency in a first assigned transmit slot and carrying information received from the secondary station on the selected frequency in a second assigned transmit slot; and

a receiver which:

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(i) receives the information transmitted from the base station on the selected frequency in a first assigned reception slot and base station synchronization information from the base station, wherein a timing of the secondary station is synchronized to the primary station using the primary station synchronization information; and

(ii) receives the information transmitted from the secondary station on the selected frequency in a second assigned reception slot; and

wherein using the telecommunication station for communications between the base station and secondary station is transparent to the base station and secondary station, and the primary station and the secondary station itself detects a frame timing from received signals and aligns its transmitting frame timing accordingly.